

KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT



KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT

2020 GEOLOGY & WELL *Virtual* TECHNOLOGY SEMINAR

Carrie Ridley, P.G. | Geology & Well Technology Unit Chief

HIGHLIGHTS OF 2020 GEOLOGY UNIT

- New Staff
- Governor's Arbuckle Working Group
 - Arbuckle concerns as a resource
 - Hutchinson earthquakes and elsewhere
- Funding and regulatory initiatives
- Alternate uses of underground salt caverns
- Continued enhancements to KOLAR
- COVID

NEW STAFF



- Ken Brooks joined the staff as the UIC Class I Program Manager in October 2019. Ken has his PG and many years of experience both in regulation and private industry for injection control and environmental protection.
- Lauren Haga started in January 2020 as the UIC Class III Program Manager. Lauren has her MS in Geophysics from KU and recently sat for the FG exam.
- Chelsea Veryser filled the Compliance and Field Operations vacancy in January 2020. Chelsea completed her BS in Geology from Wayne State in August 2019 and recently sat for the FG exam.

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ARBUCKLE UPDATE

- Governor's Arbuckle Working Group
 - Established to focus agency on efforts to determine a scope of study, defining long-term and short-term issues and identifying potential funding sources
 - KDHE understands this to mean to protect and manage the Arbuckle as a resource for long term beneficial use for all current and future potential users
 - KDHE is urging the group and KGS to expand data collection and focus efforts on determining if there is a stability issue; and how to examine and manage it

Governor's Arbuckle Work Group

Kansas Water Office reaches out the Governor's Office; October 2019

- Kansas Geological Survey presented information regarding the potential for disposed fluids to reach Kansas Aquifers due to rising pressures and injection volumes

Governor's Water Conference; November 2019

- Panel discussion increased awareness of concerns regarding the future use of the Arbuckle disposal zone

Governor Kelly's Letter requesting an Arbuckle Work Group formed; November 2019

- Focusing on efforts to determine a scope of study, defining long-term and short-term issues and identifying potential funding sources

Working Group established; January 2020

- Cabinet agencies met January 3, 2020 to determine who would be invited as additional members of the group
- Members consist of cabinet agencies along with stakeholders and industry partners; KIOGA, ONEOK, KOCH and former Geology and Well Technology Chief; Mike Cochran
- KCC requests all Pressure Fall Off Test results from KDHE

Interactions with the Kansas Legislature; January 2020

- KCC, KDHE and KIOGA spoke before Senate Utilities Committee and the House Energy Committee
- Member of Legislature visited with KDHE to understand more the interaction between induced seismicity and the larger issue of Arbuckle management

Governor's Arbuckle Work Group

4.4 earthquake rattles Reno County; January 19, 2020

- KDHE provides KCC with all Historical Fall Off test data as requested
- KDHE provides guidance to Class I Operators regarding pulsing the disposal zone

First meeting of the full Governor's Arbuckle Work Group; February 7, 2020

- Panel discussion increased awareness of concerns regarding the future use of the Arbuckle disposal zone

COVID derails progress; March, 2020 meeting canceled

KGS sends preproposal to work group for review and comment; April, 2020

- Members offered comments to preproposal in April, May and June
- KGS has not offered a revised proposal

First meeting since February, Dr. Kyle Murry speaks to group; August 12, 2020

- Dr. Murry's research is in agreement that additional investigation and more data is needed to better understand the complex situation in the Arbuckle

Kansas Water Office sends status update letter to Governor Kelly; August 28, 2020

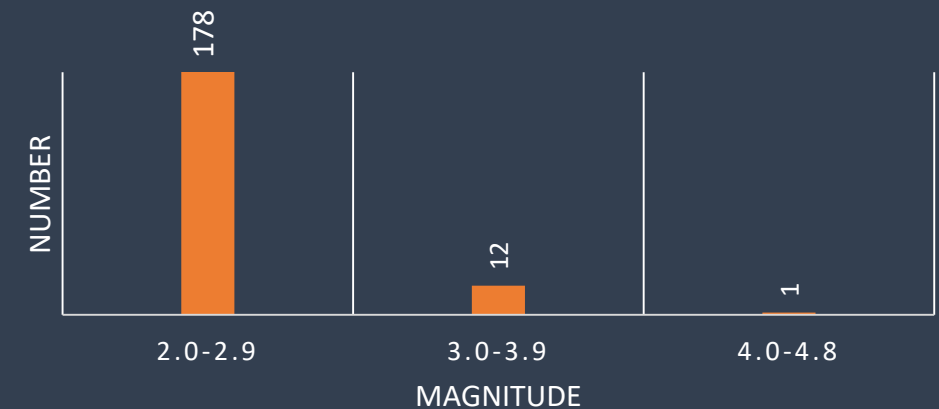
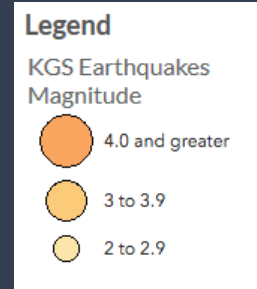
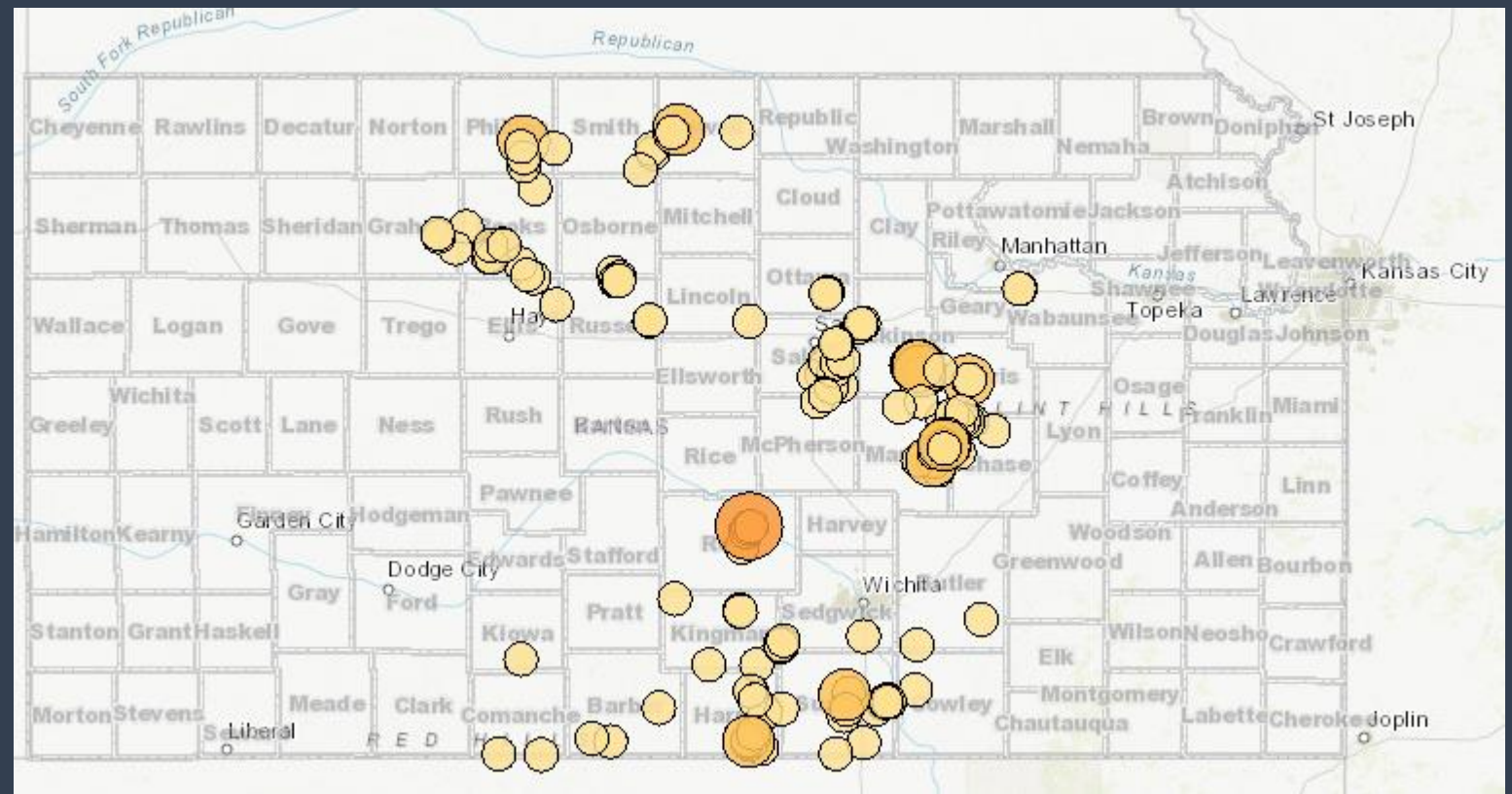
ARBUCKLE UPDATE

January 1, 2015 to Oct 1, 2020
Kansas Earthquakes

Video prepared by Chelsea Veryser

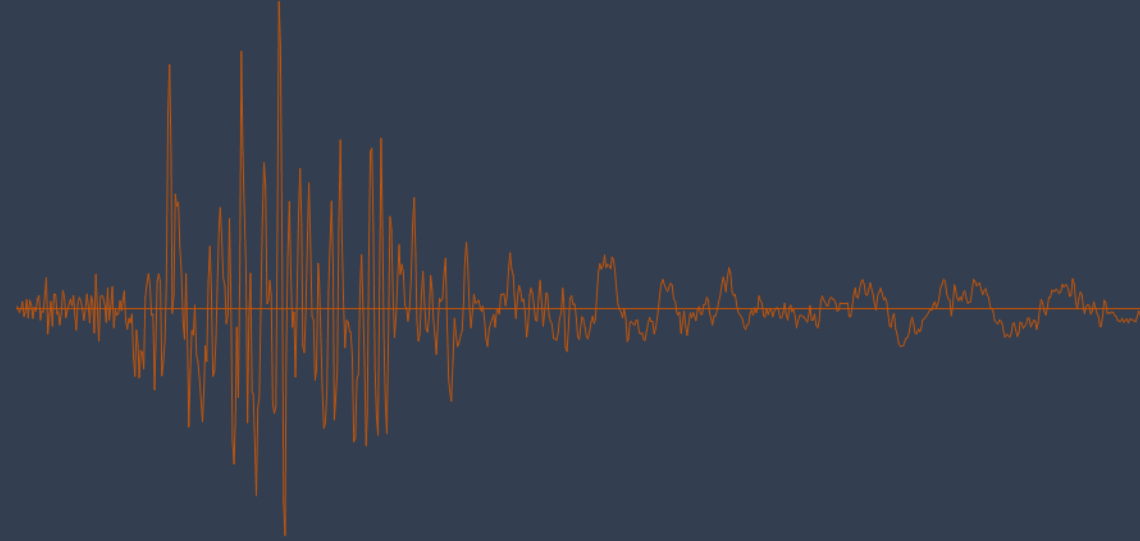
ARBUCKLE UPDATE

- Recent seismic activity
- Map shows seismic activity from Jan 1st to Oct 1st 2020
- Out of 191 earthquakes during the first 3 quarters in 2020, only 8 were in Reno County



ARBUCKLE UPDATE

- Earthquake Monitoring
 - KDHE working with KCC to develop an interstate earthquake monitoring tool designed by GWPC and their software developer Coordinate Solutions
 - Modeled after the Oklahoma Seismic Monitoring tool and will work with their information across state lines
 - Volumes
 - Seismic activity and seismic network
 - Permit information



Funding and Regulatory Initiatives

- During Legislative Session Spring 2020
 - Class I, V and Water Well Fees passed out of committee
 - Did not receive a vote due to COVID
 - KDHE will attempt to move legislation through again in 2021
- Currently
 - no fees are collected for Class I or V UIC wells
 - Water Well fees do not come back to the program, legislation will direct that money back to the Bureau of Water

FUNDING AND REGULATORY INITIATIVES

Proposed Class I Fee Structure	
	Due Annually
Monitoring Status and Undrilled Permitted Wells	\$1,000
Active Injection	\$4,500
Hazardous Injection	\$6,500

- Underground Hydrocarbon Storage Facilities (UHS) and Salt Solution Mining (SSM) Companies will have a 25% discount to their Class I Fees
- UHS and SSM fees remain unchanged



FUNDING AND REGULATORY INITIATIVES

Proposed Class V Fee Structure	
Class V permitted wells; annual fee	\$1,000
Environmental Authorization; one-time fee	\$1,000
Inventory Reporting; one-time fee	\$100

- Permitted Facilities would be billed annually
- Other Class V fees would be billed upon Authorization or Report request



FUNDING AND REGULATORY INITIATIVES

- Underground Hydrocarbon Storage Regulations
 - Progress slowed due to COVID
 - Incorporating Crude Storage Regulations
 - Looking more closely at Financial Assurance and Well Conversions
- Beginning review process for revisions to Water Well Regulations; Article 30 and potentially Statutes in Article 12
 - Very early in process, will be reaching out to stakeholders once a direction is established
 - Considering fee structure
 - Potentially adding pump installers
 - Updating technical requirements

HIGHLIGHTS OF 2020 GEOLOGY UNIT

- Exploring alternate uses of underground caverns that do not meet regulatory requirements for LPG storage or continued Salt Solution Mining activities
 - Partnering with EPA and Private business to ensure proper permitting and handling; while being nimble and responsive to innovation
 - Geology Staff has spent time exploring beneficial uses of salt caverns that are no longer within the regulations they are permitted under
 - Bio-Solids
 - Crude Storage
 - Experimental Solids and Sludges



UNDERGROUND HYDROCARBON STORAGE

- 2020 Priorities and Accomplishments

- Continued regulatory and permitting overhaul
 - Incorporate Crude Storage Regulations into draft Regulations
 - Modifications to procedure documents referenced in Regulations
- Moved reporting to KOLAR for review and submittal
- Completed backlog of wellhead inspections

- 2021 Goals

- Complete regulatory and permitting overhaul
- Enhance reporting to KOLAR for review and submittal of plan and report documents

WATER WELL PROGRAM

- 2020 Priorities and Accomplishments

- Renewed focus on compliance
- Moved renewal process for Water Well Contractors online
- Began discussions for improvements to water well records to encourage use of online submittal and accuracy of data provided
- Held interstate meeting discussing license process, fees and reporting
- Cursory discussions with Local Regulators to improve reporting

- 2021 Goals

- Continued focus on compliance
- Add application for new Water Well Contractors online
- Working with programmers to implement suggestions and improvements to water well records; reaching out to stakeholders as process continues
- Establish Priority Goal list both internally and with new KGWA leadership for regulatory revisions and increased networking at the state and local levels

UNDERGROUND INJECTION CONTROL

- 2020 Priorities and Accomplishments

- Developed Fee Structure
- Increased Field Presence
- Worked on creating Monitoring Status for Class I UIC wells
- Improved reporting for KOLAR
- Released Injection Volume data via KGS website
- Moved to area permits for Class III wells

- 2021 Goals

- Establish electronic filing system
- Create and Maintain inspection schedule for UIC Class I, III, V
- Finalize Class I Monitoring Status
- Continue enhancements to KOLAR
- Continue work on Arbuckle with KCC and Governor's Work Group
- Partner with local Sanitarians to start better reporting and data collection of Class V UIC wells

KOLAR

- Continued enhancements to KOLAR
 - Fine tune Class I and V Monthly Monitoring Reports
 - Added functionality for Underground Hydrocarbon Storage Reporting
 - Moved Water Well Contractor Licensing renewals to KOLAR
 - Adding Water Well Contractor License applications to KOLAR
 - In the process of revising the content, look and feel for WWC-5 and WWC-5P forms for Water Well Records
 - Long range plans include ability to submit plans and other reports for Class I, III, and V

KDHE and COVID response

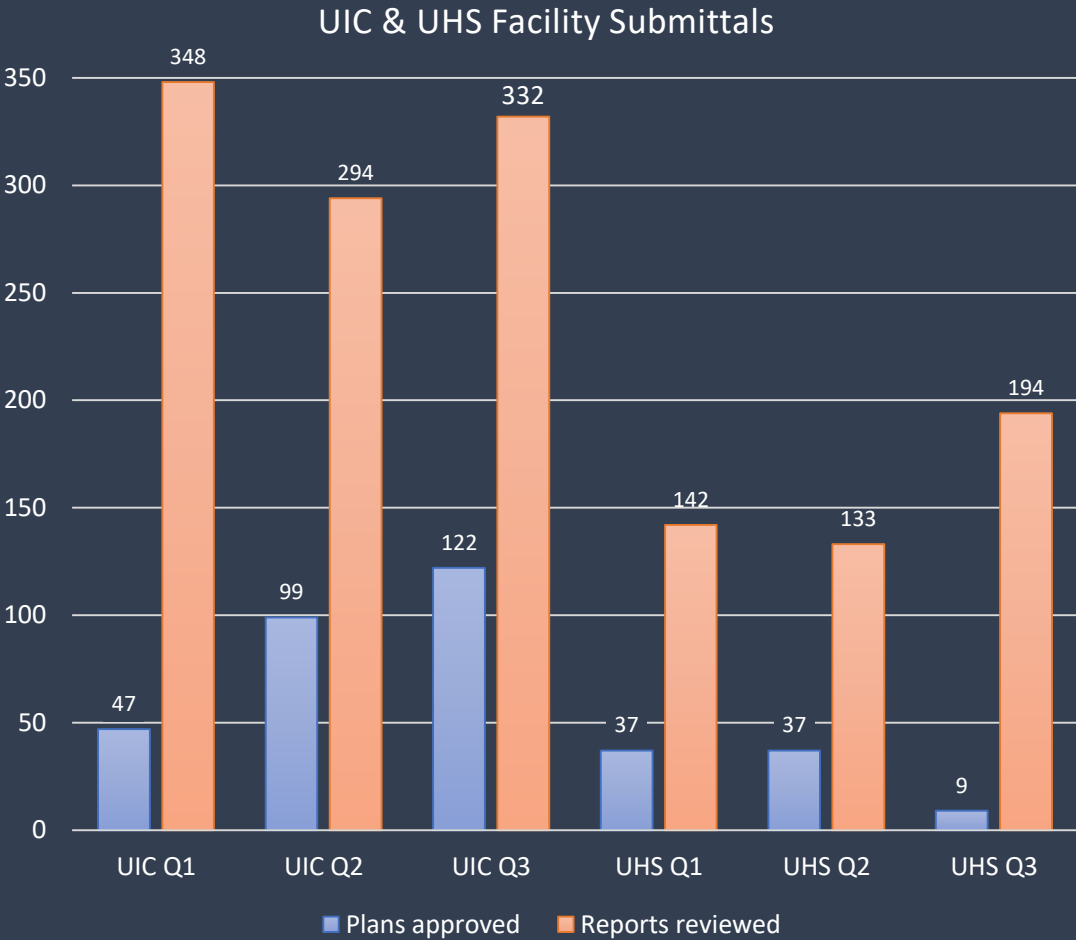
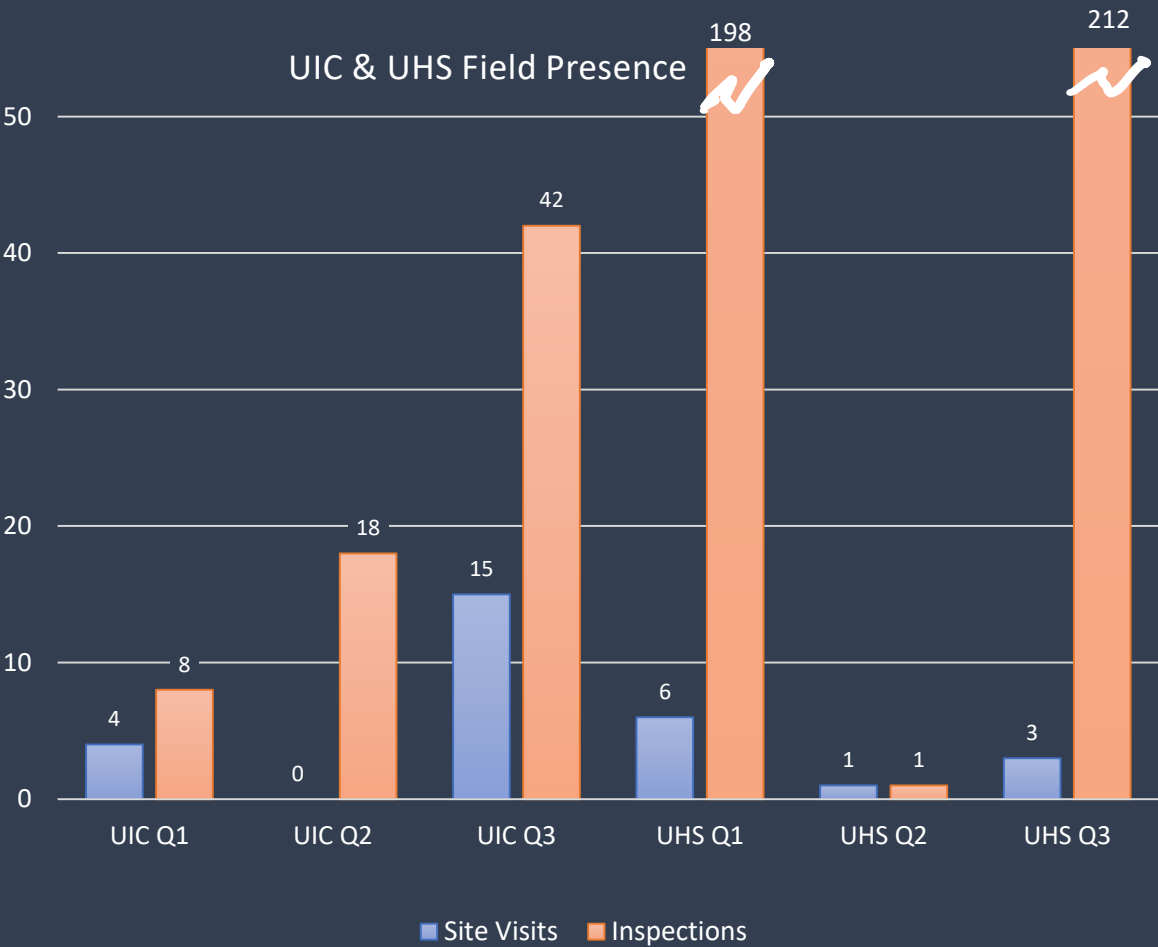
- KDHE closed down the Curtis Building on March 23, 2020
 - The majority of Division of Environment Staff worked remotely
 - Staff started working at the office 2-3 days/week with temperatures taken upon entry to building, masks, and socially distanced cubicles in May
 - In July as the infection rate climbed, moved to 1 day/week in the office
 - In September KDHE purchased automated electronic temperature scanners for each entrance into the Curtis building

KDHE and COVID response

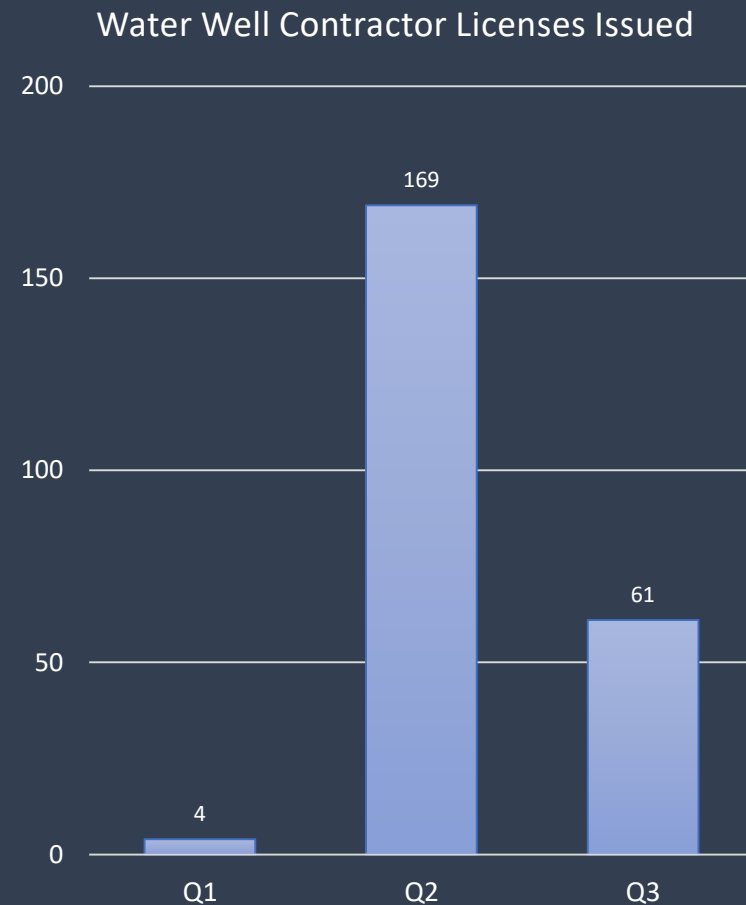
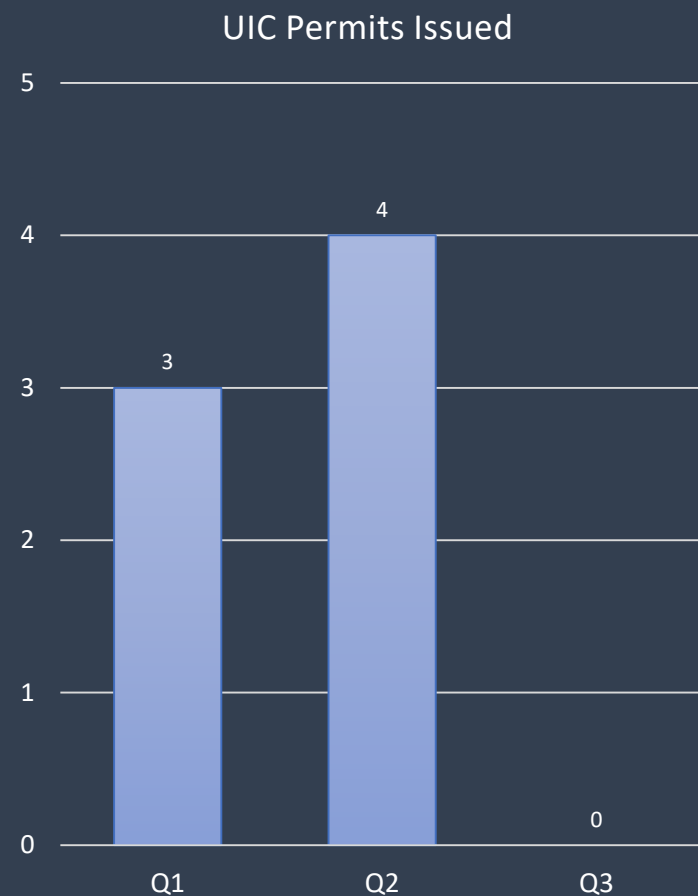
- Daily COVID-19 Incident Response meetings began in mid-March
- KDHE operates the state COVID-19 hotline
 - The hotline began taking calls in early March 7 days a week
 - In June, the hotline reduced hours and currently takes calls M-F 8-5:30
- In late April when staff began returning to the Curtis Building, volunteers manned the doors to take temperatures, process ended in September
- Three geology staff volunteered for a total of 24 from the Bureau of Water to take calls, work with contact tracers, and take temperatures



GEOLOGY & WELL TECHNOLOGY ACTIVITY THRU 3Q



GEOLOGY & WELL TECHNOLOGY ACTIVITY THRU 3Q



In January 2020; Class III permits were issued as gallery permits to reduce the paperwork created by operators and staff when permits come up for renewal.

DON'T FORGET TO HAVE A GREAT ^{VIRTUAL} SEMINAR

- Please be sure to introduce yourself to our new staff during the Q and A or via the Chat Function
- Visit our sponsors websites who help make this possible





Department of Health
and Environment